THE RUMORS OF ARCNET'S DEATH HAVE BEEN GREATLY EXAGGERATED: IT KEEPS TURNING UP, DESPITE THE HYPE OF THE OTHER NETWORK TYPES

BY DAVE BRAMBERT

The Case of Tenacious Arcnet

Poor old Arcnet. This decrepit technology is enjoying no innovative leaps, no sales to speak of—it's not even a standard, for crying out loud.

Or at least that's what some industry observers would have you believe.

What gets all the headlines? 10BaseT Ethernet and Token Ring, and their respective management products. Quietly, Arcnet *did* make some advances recently. Read on and you'll discover Arcnet's bid for standardhood, some surprising sales figures, a new way to connect printers, and more.

NODE NOTES

Yes, the number of nodes of Arcnet installations in 1991 has declined compared to 1990's figures. But—and this is important—not as much or as quickly as everyone thought. It seems that the installed base of Arcnet users are happy to continue to use this mature technology. And what's more, there are resellers who still recommend Arcnet for departmental or small- to medium-sized LANs.

According to Geof Karlin, vice president of marketing for Standard Microsystems Corp. (SMC, Hauppauge, NY), the market is still healthy for Arcnet products. "Arcnet is a survivor because people don't rip out working networks. There's still a very hardcore base out there, and it's still a very good business for us."

In fact, SMC did about $25 million in Arcnet sales this year. And those dollars are profitable dollars, says Karlin, because, "all the R&D has been paid for, and our mix has gone away from the 8-bit boards into 16-bit boards and intelligent hubs. The number of Arcnet nodes sold by SMC is down, but the dollar amount is up. Other companies have taken the low end of the market, but SMC is not in the low-end business."

So how far have sales dropped? Karlin estimates that industry-wide Arcnet sales will peak at 830,000 nodes this year, down from last year's 950,000 nodes. But 830,000 isn't exactly zero, and Karlin (and others in the Arcnet business) assure us of a firm commitment to this popular technology. The Arcnet Trade Association (ATA, Arlington Heights, IL) says that by the end of 1992 there will be more than 4 million Arcnet nodes worldwide.

SMC's is an interesting case. About a year and a half ago, the firm announced that it would expand into 10BaseT Ethernet and Token Ring cards. Some saw this move as the death of Arcnet—the company perhaps most closely associated with Arcnet was moving on to other protocols. And several months ago, it was announced that SMC would buy the LAN division of Western Digital (WD, Irvine, CA), a company steeped in Ethernet products.

But as Karlin sees it, it's not really a change in direction. "We decided we were a LAN company," says Karlin. "We realized the expertise we had was in LAN technologies. The skill in writing a driver is a skill that cuts across all LAN technologies. The channels we've established cut across all technologies. It's a natural evolution, as opposed to hopping into a new business." With the WD acquisition last year, SMC's Ethernet sales will easily dwarf those of Arcnet.

At Network Interface (Lenexa, KS), the ratio of Arcnet to Ethernet is about 50/50. Traditionally an Arcnet

vendor, Network Interface has expanded its line over the past year to include Ethernet hardware. But the firm continues to break new ground in the Arcnet world, as evidenced by its Ultra Hub product.

Doug Steen, executive vice president at Network Interface, explained how the product was born. "It was developed by our engineers and introduced in 1990," Steen explains. "The design of Ultra Hub came from an Arcnet analyzer."

"We feel it's unique because it not only detects common Arcnet problems but can do things to fix those problems," says Steen. "For instance, it will detect and correct duplicate node addresses and reconfigurations, and it supports redundant cabling pairs. And you can get basic throughput statistics as well."

Steen also comments on a growth area for the product: "Lots of these units are being sold into Lantastic networks [from Artisoft, Tucson, AZ]. The need for network management doesn't mean you're from a large company." Indeed, the proliferation of peer-to-peer networking at the low end of the LAN spectrum could mean more dollars going into Arcnet coffers. Since these networks feature a low entry price for small offices, Arcnet may be the best match in terms of price.

GROWTH AHEAD?

The most likely scenario over the next year is that Arcnet's shipment numbers will continue to decline. Competition and price drops in the 10BaseT world make Ethernet a viable technology for small- to medium-sized LANs. So why isn't Arcnet dead? Several possible growth areas for Arcnet are perhaps keeping away the hooded man with the scythe. In addition to a good outlook in terms of peer-to-peer networks, Arcnet may find more clients in the manufacturing segment.

On the factory floor, Arcnet is the technology of choice for many information managers. Why? "It's inherently better at passing small amount of information at short intervals between stations," states Don Gingold with Contemporary Controls (Downers Grove, IL). "In the factory, you must consider that Arcnet's overhead is very small, and you can pass very small pieces of information such as the status of a sensor or a value from a controller. If I send it across Arcnet, I'll get that message across faster than with Ethernet." Arcnet's small packet size, coupled with its deterministic token-passing scheme, means that these small, temporally close pieces of information will get there faster.

Contemporary Controls has installed approximately 10,000 nodes' worth of its Arcnet-based factory information/automation system. Gingold says, "We are basing our future on the fact that Arcnet makes a lot of sense in the factory." Many current factory sites are sharing information via 57.6K baud communications, or even slower. Gingold also cites Arcnet's wide range of media, flexible topology, and robust technology as key factors in installing Arcnet into sometimes harsh, spatially limited environments.

Studies have shown the wisdom of Arcnet's ways. Thomas-Conrad's (Austin, TX) director of business development, Peter Rauch, reveals, "We've done studies on file servers, and about 80 percent of all data is less than 100 bytes. Things like e-mail messages and word processing files going back to disk don't need a large packet size."

Rauch explained that Thomas-Conrad is still committed to fully maintaining its Arcnet product line and even expanding it. The company now has a set of Arcnet adapters for the Macintosh NuBus and will continue to move forward with cards and hubs for DOS-based machines.

"Arcnet is about 15 percent of the marketplace and is dropping off a bit," says Rauch, "but not nearly as fast as everyone thought. It's a very price-competitive market. Small players are dropping out because they keep getting undercut. But we're aiming for quality, and then a reasonable price. And yes, we are aiming for major gains in other protocols," answering the unasked question of why the token-biased firm got into the Ethernet market last year.

Ethernet is not the only answer for Thomas-Conrad. "TCNS, our 100Mbps system, is very Arcnet-like. A lot of Arcnet Plus people who are still waiting will find TCNS a good alternative."

A REAL PLUS

Ah, Arcnet Plus. Once hoisted aloft as the savior to the Arcnet world, it is now almost a running gag in the industry. Most vendors have the same scripted response to Arcnet Plus. Rauch: "There's been a history of delays in the chip set. Our official stance is that we're watching and waiting." SMC's Karlin: "We'll look at the chip set when it is finished and evaluate it at that time." Steen at Network Interface: "We're looking with interest at Arcnet Plus."

Is it too late for Arcnet Plus to enter the market? "The window may be gone already," says Rauch.

But development continues at Datapoint (San Antonio). Datapoint developed the first Arcnet products in 1977, and in fact, Arcnet was the first local area network protocol. In its 14 years of maturation since then, it has made significant leaps in technology and affordability. Datapoint's Terry Vetters, director of development, has "been in the computer business since 1959, and I've never run into anything so beneficial as Arcnet."

Vetters sees good prospects in Arcnet Plus, too. "It has made great strides over the past months. The first silicon chips have been delivered to us. We are currently testing 200 different aspects of the chip set. If any changes are necessary, we'll have the new silicon back and make those same sets of tests."

Vetters is cautiously optimistic about delivery of the chip set to board-level manufacturers, but would give no specific date on product delivery. However, ATA executive director Andy Larson estimates a spring or early summer date for delivery to board producers. (The chip set is being developed by Dayton, OH-based NCR.)

One of ATA's immediate goals, according to Larson, is to "deliver Arcnet Plus in a timely manner to allow the existing installed base of Arcnet users the security that their investment will be insured for the future. We'll also proceed with standardization, including an Arcnet Plus standard. We will seek ANSI-level approval for Arcnet standards, insuring that Arcnet will remain a viable technology in the LAN market."

Larson and the ATA have made great strides in these efforts in the

past year. The American National Standards Institute (ANSI) has accredited the ATA as a standards developing organization, a move, says Larson, that will "put us now in the standards-setting world equal to other bodies like the IEEE." The ATA is also working on finalizing a standard cabling guide for Arcnet. ATA's board of directors has ratified the Arcnet LAN Standard and has ordered it published for public use as an ATA association standard. It is hoped that this standard will be an ANSI standard and eventually an International Standards Organization (ISO) standard.

THERE IS A FUTURE

Arcnet has its hardcore fans, and it also has its detractors. Howard Lubert, president of HEL Custom Software, a major Philadelphia-area reseller, is a self-confessed Ethernet bigot and will remain so. "Once upon a time," states Lubert, "it [Arcnet] was a cost-effective solution. Today, there is absolutely no excuse in the world to consider it." Lubert cites Ethernet's faster raw data transmission rates, better management, and shrinking price as key issues in Ethernet's growth.

But Arcnet is still making progress. Datapoint's Vetters reveals a new capability on Arcnet networks. "The flexibility, the innovations in the past year, the connectivity, has expanded Arcnet to where you don't have to put an intelligent PC to handle a printer or scanner. You simply have 'point of use' adapters that you can plug in anywhere on the wire. With a coax adapter, an RS-232 protocol converts through an active hub, and you have a printer or scanner anywhere in your space."

Network Interface's Steen sums up his view of the protocol world: "I see the common man liking Arcnet because it's easy to install and maintain. The real issue is connectivity. For an IBM mainframe, you're better off with Token Ring. For DEC [Digital Equipment Corp.] or Unix connectivity, you might best use Ethernet. But for office automation, including growth and expansion, Arcnet makes a very economical network."

Arcnet may also make inroads into the world of network-ready hardware. Some workstation manufacturers have been working on desktop models that come complete with your favorite flavor of protocol—right in the box. Arcnet's gains could come through lowest price and connectivity to existing Arcnet networks.

So Arcnet may be the "bad penny" of network technologies. It *will* keep turning up, despite the hype of other types of networks. It may even be around for another 14 years. ■

Turn to page 99 for a complete listing of Arcnet card manufacturers.

THE CASE OF TENACIOUS ARCNET

Arcnet keeps turning up, despite the hype of the other network types. Discover Arcnet's bid for standardhood, some surprising sales figures, and a new way to connect printers.

ADI Systems
(408) 944-0100

Addtron Technology
(510) 770-0120

CNet Technology
(408) 954-8000

Compex
(714) 630-7302

D-Link Systems
(714) 455-1688

DTK Computer
(818) 810-8880

Datapoint
(512) 593-7460

Edimax Computer
(408) 496-1105

Hong Technologies
(415) 964-0100

IQ Technologies
(206) 483-3555

Katron Computers
(713) 266-3891

Lancer Research
(714) 396-8100

Lantana Technology
(619) 565-6400

Longshine Computer
(408) 942-1746

MNC International
(612) 788-1099

MultiTech Systems
(612) 785-3500

Network Interface
(913) 894-2277

Performance Technology
(512) 349-2000

Reef
(305) 389-9009

SMC (Standard Microsystems Corporation
(516) 273-3100

Sureman Computer
(714) 594-5880

TOP Microsystems
(408) 980-9813

Thomas-Conrad
(800) 332-8683

Tiara
(415) 965-1700

Xinetron
(408) 727-5509

Xircom
(818) 878-7600

Zero One Networking
(714) 693-0333